

CLAIM AMENDMENTS

1. (Original) A method for inhibiting formation of hydrocarbon hydrates in a mixture comprising water and hydrate-forming guest molecules, the method comprising
 contacting the mixture with a composition which comprises at least one dendrimeric compound having a number average molecular weight of at least 1,000 atomic mass units (amu); and
 at least one small molecular weight species having less than 1,000 amu, selected from the group consisting of polyalkyleneimine, polyallylamine, starch, sugars, and polymers or copolymers of vinyl alcohol or allyl alcohol, where the composition amount is effective in inhibiting formation of the hydrocarbon hydrates in the mixture.
2. (Previously presented) The method of claim 1 where the dendrimeric compound is selected from the group consisting of branched and crosslinked polymers having at least one acyclic or cyclic pendant group containing from 3 to 7 carbon atoms, and said branched and crosslinked polymers also containing a heteroatom selected from the group consisting of nitrogen, oxygen, and sulfur, and mixtures thereof.
3. (Original) The method of claim 2, in which the dendrimeric compound is a condensation polymer containing ester groups and at least one amide group in the backbone, having at least one hydroxyalkylamide end group and having a number average molecular weight of at least 1000 amu.
4. (Previously presented) The method of claim-1, in which the small molecular weight species comprises polyalkyleneimine.
5. (Currently amended) The method of claim 1, in which the small molecular weight species comprises at least one acyclic or cyclic pendant group containing from 3 to 7 carbon atoms.

6. (Previously presented) The method of claim 1, in which the composition comprises at least one surfactant.
7. (Previously presented) The method of claim 6 where the surfactant comprises a cationic, anionic or nonionic surfactant selected from the group consisting of polyoxyethylene ethers, sorbitans, long chain alcohols, sulphates, diols, fatty acids, alkylated ammonium compounds, phosphonium compounds, sulphonium compounds and mixtures thereof.
8. (Currently amended) The method of claim ~~4~~ 6, in which the composition comprises:
- from 0.1 to 2 wt% of the at least one dendrimeric compound;
 - from 0.1 to 2 wt% of the at least one small molecular weight species having less than 1,000 amu; and
 - from about 10 to about 3000 ppm of at least one surfactant.
9. (Previously presented) A composition for inhibiting formation of hydrocarbon hydrates which comprises at least one dendrimeric compound having a number average molecular weight of at least 1,000 atomic mass units; and at least one small molecular weight species having less than 1,000 atomic mass units, selected from the group consisting of polyalkyleneimine, polyallylamine, starch, sugars, and polymers or copolymers of vinyl alcohol or allyl alcohol.
10. (Previously presented) The composition of claim 9 in which the dendrimeric compound is selected from the group consisting of branched and crosslinked polymers having at least one acyclic or cyclic pendant group containing from 3 to 7 carbon atoms, and said branched and crosslinked polymers comprising a heteroatom selected from the group consisting of nitrogen, oxygen, and sulfur, and mixtures thereof.
11. (Previously presented) The composition of claim 10, in which the dendrimeric compound comprises a condensation polymer containing ester

groups and at least one amide group in the backbone, having at least one hydroxyalkylamide end group, and having a number average molecular weight of at least 1000 atomic mass units.

12. (Previously presented) The composition of claim 9, in which the small molecular weight species comprises polyalkyleneimine.

13. (Currently amended) The composition of claim 9, in which the small molecular weight species comprises at least one acyclic or cyclic pendant group containing from 3 to 7 carbon atoms.

14. (Previously presented) The composition of claim 9, in which the composition further comprises at least one surfactant.

15. (Previously presented) The composition of claim 14, wherein the surfactant comprises a cationic, anionic or nonionic surfactant selected from the group consisting of polyoxyethylene ethers, sorbitans, long chain alcohols, sulphates, diols, fatty acids, quaternary ammonium compounds and mixtures thereof.

16. (Currently amended) The composition of claim 9, in which the composition comprises:

from 0.1 to 2 wt% of the at least one dendrimeric compound;

from 0.1 to 2 wt% of the at least one small molecular weight species having less than 1,000 atomic mass units.

17. (Previously presented) A hydrate inhibited mixture comprising:

water;

hydrate-forming guest molecules; and,

a composition comprising:

at least one dendrimeric compound having a number average molecular weight of at least 1,000 atomic mass units; and,

at least one small molecular weight species having less than 1,000 atomic mass units, selected from the group consisting of polyalkyleneimine, polyallylamine, starch, sugars, and polymers or copolymers of vinyl alcohol or allyl alcohol; wherein the composition is present in a concentration effective to inhibit hydrate formation in the mixture.

18. (Original) The hydrate inhibited mixture of claim 17, in which the hydrate-forming guest molecules are selected from the group consisting of methane, ethane, ethylene, acetylene, propane, propylene, methylacetylene, n-butane, isobutane, 1-butene, trans-2-butene, cis-2-butene, isobutene, butene mixtures, isopentane, pentenes, natural gas, carbon dioxide, hydrogen sulphide, nitrogen, oxygen, argon, krypton, xenon, and mixtures thereof.